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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/036,185

12/28/2001

Michele Borgatti

32079-82

4873

7590

04/24/2006

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EXAMINER

MYERS, PAUL R

ART UNIT

PAPER NUMBER

2112

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/036,185	<b>Applicant(s)</b> BORGATTI ET AL.	
	<b>Examiner</b> Paul R. Myers	<b>Art Unit</b> 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 2/13/06 have been fully considered but they are not persuasive.

In regards to applicants argument that Kamepalli does not establish physical circuit connections: This is clearly incorrect. Kamepalli teaches that the configuration registers for F0-F7 include an enable bit. The purpose of an enable bit is to establish a physical connection. Enable bits are control bits. Control bits are fed to the control inputs of transistors. When the bits are disable the transistors are off and there is no path through the transistors. When the bits are enable the transistors are on and there is a path through the transistors. This is the basic function of enable bits. Sometimes enable bits turn on transistors that provide power to a circuit thus providing a path/connection to the function of the circuit. The examiner further notes Column 4 lines 1-18 which expressly states "If the content of the disable/enable register of a particular function indicates the function is disabled, then the PCI interface 205 does not respond to the command."

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamepalli PN 6,647,434 in view of Chen et al PN 5,933,652.

In regards to claims 1 and 9-11: Kamepalli teaches an electronic system, comprising: a portable host device (Fig 1; column 1 lines 18-21) having a connector (118); and an expansion module (multifunction device) adapted for quick-connect engagement in and disengagement from the portable device via the connector (118), comprising: one or more peripheral devices adapted to serve different classes of functions (Fig 2, multifunction device 121; Column 3 lines 41-54); a non-volatile memory for storing information that pertains to circuit configuring the different classes of functions in the module (Fig 3, Col 3 lines 45-54, Col 5 lines 22-34); a reconfigurable unit adapted to be circuit modified to establish connections within the module, implement a certain class of functions, and control the module components to support the implemented class of functions (any of the controllers F0-F7 or all taken together); and a control device (207) adapted , in cooperation with the host device, to control the circuit modification of the reconfigurable unit to support the implemented class of functions. While Kamepalli does teach a software algorithm adapted to instruct in circuit modification of the reconfigurable unit, Kamepalli does not teach the BIOS software algorithm being stored within the expansion unit. Chen et al teaches a peripheral adapter coupled to a Host that includes its own extension BIOS. It would have been obvious to store the control software for the expansion module within the expansion module because this would have prevented the use of the wrong control software. Official notice is taken that sensors and signal processing elements are well known devices. It would have been obvious to include sensors and signal processing elements as the add in devices because this would have prevented limiting the types of add in devices.

In regards to claim 2: Kamepalli discloses a method of reconfiguring the functionality of a portable electronic device, comprising; connecting an expansion module to the portable electronic device (e.g. col. 3, lines 11 et seq.); reading applications resident on the portable electronic device (col. 5, lines 5 et seq.); upon receiving a request to activate a new function to be provided by the portable electronic device (e.g. col. 6, lines 10-41), automatically reconfiguring the expansion module to provide the new function requested (e.g. col. 6, lines 10-41).

In regards to claim 3: "wherein the step of automatically reconfiguring comprises verifying that the request is consistent with the functions that are capable of being provided by the expansion module" is within the teachings of Kamepalli (see col. 3, line 65 - col. 4, line 19).

In regards to claims 4 and 6: "wherein the step of automatically reconfiguring comprises selecting components within the expansion module to perform the new function requested, and deselecting components within the expansion module that are not needed to perform the function requested" is within the teachings of Kamepalli (see col. 4, lines 20-46).

In regards to claim 5: Kamepalli teaches signaling completion of the reconfiguring (e.g. col. 5, line 65-col. 6, line 11).

4. Claims 7-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamepalli PN 6,647,434 in view of Chen et al PN 5,933,652 as applied to claims 1 and 11 above, and further in view of Lien et al PN 6,211,697.

In regards to claims 7-8 and 12: Kamepalli in view of Chen et al teaches the reconfiguring of multifunction devices as described above. Kamepalli does not limit the type of device, however Kamepalli does not expressly state the device can be a field programmable gate

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array (FPGA). Lien et al teaches a device that is a FPGA and how it can be reconfigured (Column 1 line 14 to Column 3 line 20). It would have been obvious to a person of ordinary skill in the art at the time of the invention to include FPGAs as the configurable device because this would have prevented unduly limiting the type of device.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

WO 99/33243 to Leong teaches a reconfigurable expansion module as claimed above excepting that the Host is not necessarily portable and the control program is downloaded to the Expansion module.

PN 5,615,344 to Yanai et al teaches a reconfigurable adapter.

PN 4,868,783 to Anderson teaches a reconfigurable device adapter.

PN 5,247,633 to Nissimov teaches an adapter with its own extension BIOS.

WO 94/11802 to Corder teaches a reconfigurable adapter with its own stored operations program.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 571 272 3639. The examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**PAUL R. MYERS**  
**PRIMARY EXAMINER**

PRM  
April 20, 2006